<110> TAKARA BIO INC.

<120> Polypeptide having RNaseIII activity

<130> 664746

<150> JP 2003-342260
<151> 2003-09-30

<150> JP 2003-409638
<151> 2003-12-08

<160> 17

<170> PatentIn version 3.1

<210> 1
<211> 678
<212> DNA
<213> Shewanella sp. Ac10

<400> 1
atggaaccca ttaaaaattt gccgcgtttg tgccgtactt taggttatga gttcaataat 60

attgaattac ttattcaggc cttaacacat cgtagcgcag caaataaaca taatgagcgt 120

ttagagtttt taggtgattc gattttatcg atagccattt cagatgcctt atatcatcag 180

tttccaaagg cgactgaagg tgatttaagc cgaatgcgcg ccactttagt caaaggtgac 240

acgctgacaa tcatagctaa agagttcaag ctaggtgatt atttgtattt aggtcctggt 300

gaactcaaaa gtggtggctt tagacgcgaa tctattttag ctgatgctgt agaggctatt 360

attggtgctg tctatcttga tgctgatatt gaagtgtgcc gcaagctatt attatcatgg 420

tatcaagagc gtttagctga gattaaaccg ggtattaatc aaaaagatcc gaagacaata 480

ttgcaagaat acctgcaagg ttttaaaaag ccattgcctg attaccaagt tgttgcagta 540

gaaggtgaag cccatgatca aaccttcacc gtagaatgta aaattagtga attagataaa 600

gttgtcaccg gtgtggcaag ttcaagaaga aaagctgaac agcttgccgc tgctcaggta 660

ttggagctac tgaataaa 678

<210> 2
<211> 39
<212> DNA
<213> Artificial

<220>
<223> Synthetic primer 1 to amplify a gene encoding Shewanella sp. AC10 RNaseIII

<400> 2
cagattccac gaattcgatg gaacccatta aaaatttgc 39

<210> 3
<211> 37
<212> DNA
<213> Artificial

<220>
<223> Synthetic primer 2 to amplify a gene encoding Shewanella sp. AC10 RNaseIII

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ggagaggtct ggatccttat ttattcagta gctcctt 37

<210> 4
<211> 226
<212> PRT
<213> Shewanella sp. Ac10

<400> 4

Met Glu Pro Ile Lys Asn Leu Pro Arg Leu Cys Arg Thr Leu Gly Tyr
1 5 10 15

Glu Phe Asn Asn Ile Glu Leu Leu Ile Gln Ala Leu Thr His Arg Ser
20 25 30

Ala Ala Asn Lys His Asn Glu Arg Leu Glu Phe Leu Gly Asp Ser Ile
35 40 45

Leu Ser Ile Ala Ile Ser Asp Ala Leu Tyr His Gln Phe Pro Lys Ala
50 55 60

Thr Glu Gly Asp Leu Ser Arg Met Arg Ala Thr Leu Val Lys Gly Asp
65 70 75 80

Thr Leu Thr Ile Ile Ala Lys Glu Phe Lys Leu Gly Asp Tyr Leu Tyr
85 90 95

Leu Gly Pro Gly Glu Leu Lys Ser Gly Gly Phe Arg Arg Glu Ser Ile
100 105 110

Leu Ala Asp Ala Val Glu Ala Ile Ile Gly Ala Val Tyr Leu Asp Ala
115 120 125

Asp Ile Glu Val Cys Arg Lys Leu Leu Leu Ser Trp Tyr Gln Glu Arg
130 135 140

Leu Ala Glu Ile Lys Pro Gly Ile Asn Gln Lys Asp Pro Lys Thr Ile
145 150 155 160

Leu Gln Glu Tyr Leu Gln Gly Phe Lys Lys Pro Leu Pro Asp Tyr Gln
165 170 175

Val Val Ala Val Glu Gly Glu Ala His Asp Gln Thr Phe Thr Val Glu
180 185 190

Cys Lys Ile Ser Glu Leu Asp Lys Val Val Thr Gly Val Ala Ser Ser
195 200 205

Arg Arg Lys Ala Glu Gln Leu Ala Ala Ala Gln Val Leu Glu Leu Leu
210 215 220

Asn Lys
225

<210> 5
<211> 243
<212> PRT
<213> Artificial

<220>
<223> An expression peptide sequence of Shewanella sp.AC10 RNaseIII

<400> 5

Met Asn His Lys Val His His His His His His Ile Glu Gly Arg Asn
1 5 10 15

Ser Met Glu Pro Ile Lys Asn Leu Pro Arg Leu Cys Arg Thr Leu Gly
20 25 30

Tyr Glu Phe Asn Asn Ile Glu Leu Leu Ile Gln Ala Leu Thr His Arg
35 40 45

Ser Ala Ala Asn Lys His Asn Glu Arg Leu Glu Phe Leu Gly Asp Ser
50 55 60

Ile Leu Ser Ile Ala Ile Ser Asp Ala Leu Tyr His Gln Phe Pro Lys
65 70 75 80

Ala Thr Glu Gly Asp Leu Ser Arg Met Arg Ala Thr Leu Val Lys Gly
85 90 95

Asp Thr Leu Thr Ile Ile Ala Lys Glu Phe Lys Leu Gly Asp Tyr Leu
100 105 110

Tyr Leu Gly Pro Gly Glu Leu Lys Ser Gly Gly Phe Arg Arg Glu Ser
115 120 125

Ile Leu Ala Asp Ala Val Glu Ala Ile Ile Gly Ala Val Tyr Leu Asp
130 135 140

Ala Asp Ile Glu Val Cys Arg Lys Leu Leu Leu Ser Trp Tyr Gln Glu
145 150 155 160

Arg Leu Ala Glu Ile Lys Pro Gly Ile Asn Gln Lys Asp Pro Lys Thr
165 170 175

Ile Leu Gln Glu Tyr Leu Gln Gly Phe Lys Lys Pro Leu Pro Asp Tyr
180 185 190

Gln Val Val Ala Val Glu Gly Glu Ala His Asp Gln Thr Phe Thr Val
195 200 205

Glu Cys Lys Ile Ser Glu Leu Asp Lys Val Val Thr Gly Val Ala Ser
210 215 220

Ser Arg Arg Lys Ala Glu Gln Leu Ala Ala Ala Gln Val Leu Glu Leu

225 230 235 240

Leu Asn Lys

<210> 6
<211> 720
<212> DNA
<213> Artificial

<220>
<223> red-shifted green fluorescence protein

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ggtgatgtta acggccacaa gttctctgtc agtggagagg gtgaaggtga tgcaacatac 120

ggaaaactta ccctgaagtt catctgcact actggcaaac tgcctgttcc atggccaaca 180

ctagtcacta ctctgtgcta tggtgttcaa tgcttttcaa gatacccgga tcatatgaaa 240

cggcatgact ttttcaagag tgccatgccc gaaggttatg tacaggaaag gaccatcttc 300

ttcaaagatg acggcaacta caagacacgt gctgaagtca agtttgaagg tgataccctt 360

gttaatagaa tcgagttaaa aggtattgac ttcaaggaag atggaaacat tctgggacac 420

aaattggaat acaactataa ctcacacaat gtatacatca tggcagacaa acaaaagaat 480

ggaatcaaag tgaacttcaa gacccgccac aacattgaag atggaagcgt tcaactagca 540

gaccattatc aacaaaatac tccaattggc gatggccctg tccttttacc agacaaccat 600

tacctgtcca cacaatctgc cctttcgaaa gatcccaacg aaaagagaga ccacatggtc 660

cttcttgagt ttgtaacagc tgctgggatt acacatggca tggatgaact gtacaactga 720

<210> 7
<211> 42
<212> DNA
<213> Artificial

<220>
<223> Synthetic primer dsr-1 to amplify a gene encoding red-shifted green fluorescence protein

<400> 7
gggtaatacg actcactata gggagaatgg ctagcaaagg ag 42

<210> 8
<211> 42
<212> DNA
<213> Artificial

<220>
<223> Synthetic primer dsr-2 to amplify a gene encoding red-shifted green fluorescence protein

<400> 8
gggtaatacg actcactata gggagatcag ttgtacagtt ca 42

<210> 9
<211> 42
<212> DNA
<213> Artificial

<220>
<223> Synthetic primer dsl-1 to amplify a gene encoding luciferase

<400> 9
gggtaatacg actcactata gggagaatgg aagacgccaa aa 42

<210> 10
<211> 42
<212> DNA
<213> Artificial

<220>
<223> Synthetic primer dsl-2 to amplify a gene encoding luciferase

<400> 10
gggtaatacg actcactata gggagagaac gtgtacatcg ac 42

<210> 11
<211> 42
<212> DNA
<213> Artificial

<220>
<223> Synthetic primer dsl-3 to amplify a gene encoding luciferase

<400> 11
gggtaatacg actcactata gggagaggca gatggaacct ct 42

<210> 12
<211> 66
<212> PRT
<213> Thermotoga maritima

<400> 12

Met Arg Gly Lys Val Lys Trp Phe Asp Ser Lys Lys Gly Tyr Gly Phe
1 5 10 15

Ile Thr Lys Asp Glu Gly Gly Asp Val Phe Val His Trp Ser Ala Ile
20 25 30

Glu Met Glu Gly Phe Lys Thr Leu Lys Glu Gly Gln Val Val Glu Phe
35 40 45

Glu Ile Gln Glu Gly Lys Lys Gly Pro Gln Ala Ala His Val Lys Val
50 55 60

Val Glu
65

<210> 13
<211> 198
<212> DNA
<213> Thermotoga maritima

<400> 13
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gaaggaggag acgtgttcgt acactggtca gccatcgaaa tggaaggttt caaaactctg 120

aaggaaggcc aggtcgtcga gttcgagatt caggaaggca agaaaggtcc acaggcagcg 180

cacgtgaaag tagttgag 198

<210> 14
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Synthetic primer rsGFP-F to amplify a gene encoding rsGFP

<400> 14
gccacaacat tgaagatgga 20

<210> 15
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Synthetic primer rsGFP-R to amplify a gene encoding rsGFP

<400> 15
gaaagggcag attgtgtgga 20

<210> 16
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Synthetic primer Neo-F to amplify a gene encoding Neo

<400> 16
atagcgttgg ctacccgtga 20

<210> 17
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Synthetic primer Neo-R to amplify a gene encoding Neo

<400> 17
gaaggcgata gaaggcgatg 20